CENTRE FOR INNOVATION AND INCUBATION

NATIONAL INSTITUTE OF TECHNOLOGY

WARANGAL – 506004
Dr V.A.Sastry Centre for Innovation and Incubation (CII)

**MISSION**

To promote innovations leading to new processes, products, designs and technologies in collaboration with industry and thereby facilitate application of knowledge to the society.

**OBJECTIVES**

- To promote greater industry – academic interaction, by inviting leading industries to set up their research labs at this Centre and carry out their research projects by using the talent on the campus.
- To encourage the first generation entrepreneurs desirous of R&D partnership with NITW or otherwise to establish their research labs at this Centre.
- To promote innovation projects of B.Tech, and M.Tech. Students by providing appropriate facilities, infrastructure and financial assistance as per the norms of the Institute.
- To facilitate the ‘on campus interaction’ between the scientists of industries and faculty and students of NITW in order to enable orientation of R&D activities of NITW to potential needs of the industry.

**Facilities and Space at CII**

The Centre for Innovation and Incubation, popularly known as Dr V.A.Sastry Innovation Centre (in the name of an alumnus of 1964 B.Tech batch who donated Rs 1 crore for this building) is a G+2 building, with a floor space of approx. 30,000 sft. The CII facilitates the following at present.

- Start-up Cell
- Innovation Garage
- Incubation cubicles
- Maker’s Space with tools
- Industry R&D Labs
- Conference & Seminar Halls

Industries, who wish to establish their research labs, will be provided the necessary lab space depending upon their requirement. The industrialists/entrepreneurs can have access to use the other Institute facilities on payment of charges as per the norms of the Institute. The creative talent of students and the experience and expertise of the faculty are the key factors to motivate industries to open their R&D labs at the Centre for Innovation and Incubation of NITW.

**Role of CII in building an entrepreneurial eco-system in the campus**

NIT, Warangal being a premier technical institution plays a vital role in the process of technology entrepreneurship by offering variety of services through CII in the area of start-up creation, business incubation, easy access to capital and knowledge access to many young potential innovators and entrepreneurs and helping them being groomed to succeed with new and innovative ideas. Moreover, emphasis has also been given by the institute towards entrepreneurial focused education by offering Entrepreneurship Development and Venture Creation as elective courses for developing entrepreneurial competencies. Further, various support mechanisms are also provided in the form of structured mentorship programs, short training to build the confidence in
students to convert ideas to innovations and start-up establishment. Incubation facilities are also open to the local start-ups in and around as part of the social responsibility at minimal expenses, thereby contributing significantly in promoting the entrepreneurship culture in institute and within the country.

**Start-up Cell and Institute Start-up Policy**

NPIU and AICTE have come up with implementation of mandating Start-up program in TEQIP-III mentee institutions through establishment of Start-up Cells and in-house expertise and capacity building to support student innovations, to identify entrepreneurial potential of students and transform them into start-up entrepreneurs. A **Start-up Cell** led by a faculty team has been established at CII. Students are encouraged to participate in idea generation to prototype events and the funding is provided to procure the hardware required through TEQIP-III

Student start-ups are current requirements and provide a great opportunity in market expansion and job creation. Startup Policy of NITW targets to nurture and encourage entrepreneurship among students and young faculty to benefit from GoI's 'Start-up India' and ‘Make in India’ program.

CII through Start-up Cell and Start-up Policy facilitates:

(a) Students / faculty to register a start-up. Initial space and lab facilities are extended by CII for the first two years. Start-up shall have an agreement executed with the college for providing logistic / resource assistance.

(b) The institute conducts road shows of its developments for nurturing joint partnership with prospective Start-ups / Companies / marketers.

Ideas from students are periodically captured at initial stages through the events like **Hack-a-thons** (Make-a-thons) and encouraged to go through the cycle of proving and demonstration, develop business model and identifying financial partners and final register a start-up. All logistic support is provided by the institute.

**Innovation Garage (IG)**

The CII also provides the platform for the students to carry out innovative projects through **innovation Garage (IG)**. Innovation garage is a multidisciplinary 24X7 maker’s space for the students to work on the innovative projects and develop prototypes.

**Start-up companies graduated**

<table>
<thead>
<tr>
<th>Person name</th>
<th>Name of the company</th>
<th>Place</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aradh Vemula</td>
<td>Centaur Automotive</td>
<td>Hyderabad, Telangana</td>
<td><a href="https://in.linkedin.com/in/aradhvemula">https://in.linkedin.com/in/aradhvemula</a></td>
</tr>
</tbody>
</table>
Other Activities under CII

Prof-in-charge of CII will also take care of the following:

- MoUs (National partnerships)
- IPR Cell
- TEP (Technology Entrepreneurship program) is a one year virtual certification program for II B.Tech students in collaboration with Indian School of Business (ISB), Hyderabad.
- EPICS (Engineering Projects in Community Service): A 4 credit course offered to the students in their III year to enable them an experiential learning by working on community based projects.
Institution-industry linkage details - List of MoUs

1. Central Power Research Institute, Bangalore
2. Indian Institute of Chemical Technology, Hyderabad
3. Sky e IT Solutions Private Limited, Hyderabad
4. Tata Consultancy Services Limited, Hyderabad
5. Warangal Municipal Corporation, Warangal
6. Infosys Limited, Bangalore
7. The Lakshya Foundaiton, Warangal
8. Electronics Corporation of India Limited, Hyderabad
9. Software Technology Park of India, Hyderabad
10. Center for Development of Advanced Computing (C-DAC), Bangalore
11. CNR, Chennai
12. Effexort Solutions Pvt. Ltd., Hyderabad
13. University of Malardalan, Sweden
14. FutureNow Innosoft Pvt. Ltd., Hyderabad
15. Helsinki University of Technology, University of Oulu, Tampere University of Technology and The University of Tampere, Finland
16. IBM India Limited, Bangalore
17. International Advanced Research Centre for Power Metallurgy and New Materials (ARCI), Hyderabad
18. International Foundation for Entrepreneurship, Science and Technology (IFEST), USA
19. Jayaprakash Narayan College of Engineering, Dharampur, Mahabubnagar
20. National Academy of Construction (NAC), Hyderabad
21. Nonferrous Materials Technology Development Centre, Hyderabad
22. Research Centre Imarat (RCI), Hyderabad
23. Tampere University of Technology, Finland
24. Texas A&M Agrilife Research University, USA
25. Appolo Computing Laboratory Pvt. Ltd., Hyderabad
26. Central Manufacturing Technology Institute (CMTI)
27. Defence Metallurgical Research Laboratory (DMRL)
28. National Institute of Technology Tiruchirapalli (NITT)
29. Visvesvaraya National Institute of Technology, Nagpur (VNIT)
30. National Institute of Technology, Agartala (NITA)
31. Telangana Academy of skill and knowledge (TASK)_Institute for Electronic Governance, Telangana State
32. Electronic Corporation of India Limited, Hyderabad
33. Indian Institute of Technology, Madras, Chennai, India (IITM)
34. Water and Land Management Training and Research Institute (WALMTARI)
35. Elico Ltd., Hyderabad
36. PEPSICO
37. ELICO Ltd., Hyderabad (different from that of S.No.35)
38. MNIT, Hyderabad
39. University Corporation for Atmospheric Research
40. Ecole Centrale de Nantes, Nantes, France
41. Lave Consulting Services, Bangalore
42. Sapience Consulting a Texas Instruments University Programme (Bangalore)
43. Institute for Development and Research in Banking Technology (IDRBT)
44. Telangana State Road Transport Corporation, Hyderabad
45. Incube Ventures Pvt. Ltd., Ahmedabad
46. Geo Vista Technologies Pvt. Ltd., Hyderabad
47. Sky e IT Solutions(P) Ltd., Hyderabad (License agreement)
48. Sri Mangadu Kamatchiammam Business Corporation (INFOMAPS), Chennai
49. Info Trans Engineers Private Limited (ITE), Hyderabad
50. BHEL for Research & Development, New Delhi
51. Electro Optical Instruments Research Academy DRDO, Ministry of Defence (MoD) (ELoira), Hyderabad
52. Nucleonix Systems Pvt. Ltd., Hyderabad
53. South Ural State University Chelyafinsk, Russia
54. Affine Tech Systems Pvt. Ltd., Hyderabad
55. iBuild innovations India Ltd., Hyderabad
56. Survey of India, New Delhi
57. Institute for Solid Waste Research and Ecological Balance (INSWAREB), Visakhapatnam
58. CUSMAT Technologies, Hyderabad
59. FLOWHREX Technologies, Pune
60. AMD India Pvt Ltd., Hyderabad
61. Neuland Laboratories Limited, Hyderabad
62. Research on Advanced Biomedical Solutions Pvt Ltd., Hyderabad
63. Blusapphire Cyber Systems Pvt Ltd., Hyderabad
64. Engineering Staff College of India (ESCI), Hyderabad
65. Exseed Space Innovations Pvt Ltd., Mumbai
66. Eternal Green Innovations Pvt Ltd, Hyderabad
67. Engineering Council of India, New Delhi
68. Hexagon Capability Center India Pvt Ltd., Hyderabad
69. Telangana State Council of Science & Technology (TSCOST), Govt Telangana, Hyderabad
The Institute has to provide a congenial environment to facilitate research leading to Innovations and inventions, which may ultimately create intellectual property. The Institutions must also promote awareness among the researchers to protect their intellectual property (IP) by registering applications for ‘patents’, ‘design’, ‘copyright’, trade marks’ etc. Effective management of IP issues is also very important. Inventions and Innovations may transformed into technologies by the Industry, for the benefit of the society.

An IPR cell at NIT, Warangal has been established in June 2012 with the following objectives.

- To create awareness about the need and importance of Intellectual Property Rights (IPR) among the faculty and students through periodical workshops.
- To facilitate filing of applications for patents and other IPR.
- To recommend financial assistance for filing for IPR, by the faculty and students of the Institute as per the norms of the institute.

The intellectual assets created by NITW are patented through its IPR Policy. NIT, Warangal has a draft IPR policy at present which will be fine-tuned soon. The Policy covers different aspects like eligibility, capturing ideas, search, and documentation, submission of statutory forms, defense, grant, ownership, disposal and termination. Students, Faculty, Alumni, Project staff, employees of organizations to which NITW offers consultancy (Joint) are eligible to submit patents and contribute to Intellectual property Assets of the Institute. The Policy also covers administrative procedures and approvals, norms to protect the legitimate interest of faculty/students/ project staff/ supporting staff/visitors in respect of IPR.It provides a transparent administrative system for the ownership, control and transfer of the intellectual property created and owned by the Institute.
**Patents list of NIT, Warangal filed so far.**

<table>
<thead>
<tr>
<th>Patent/Application Number</th>
<th>Year of Filing</th>
<th>Title</th>
<th>Status at IPO (As on 15th June, 2018)</th>
<th>Applicant</th>
<th>Department</th>
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<tr>
<td>11/MUM/2004</td>
<td>2004</td>
<td>UTILIZATION OF NANO EXTENDERS FOR PART REPLACEMENT OF TIO2 FOR ENHANCEMENT OF HIDING POWER OF SURFACE COATINGS</td>
<td>Application Abandoned U/S 21(1)</td>
<td>REGISTRAR</td>
<td>CHEMICAL</td>
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<td>1090/CHE/2009</td>
<td>2009</td>
<td>AIR CAR</td>
<td>Application Abandoned U/S 21(1)</td>
<td>1. DR. PULI RAVI KUMAR (TEAM GUIDE) 2. FR. KOMMAREDDY VIJAY KUMAR REddy (DIRECTOR OF THE INSTITUTION) 3. NISSANGI JOY KUMAR (TEAM REPRESENTATIVE)</td>
<td>MECHANICAL</td>
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<tr>
<td>1562/CHE/2010</td>
<td>2010</td>
<td>SOLAR POWER OPERATED TRICYCLE AND BICYCLE</td>
<td>Application Abandoned U/S 21(1)</td>
<td>1. DR. PULI RAVI KUMAR 2. FR. KOMMAREDDY VIJAY KUMAR REddy</td>
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<tr>
<td>704/CHE/2010</td>
<td>2010</td>
<td>A MECHANISM FOR STEERING OF A FOUR WHEELER</td>
<td>PATENT GRANTED: 292675</td>
<td>VENKATAchalam RAPUR</td>
<td>MECHANICAL</td>
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<td>1913/CHE/2010</td>
<td>2010</td>
<td>A MECHANISM TO PROVIDE PERFECT STEERING CONDITION IN FOUR WHEEL VEHICLE</td>
<td>Application Awaiting Examination</td>
<td>VENKATAchalam RAPUR</td>
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<tr>
<td>3546/MUM/2011</td>
<td>2011</td>
<td>SYNTHESIS OF CALCIUM CARBONATE NANO PARTICLES BY NEW RECYCLE REACTOR USING CAVITATION TECHNIQUE.</td>
<td>PATENT GRANTED: 273204</td>
<td>DR SHIRISH H. SONAWANE</td>
<td>CHEMICAL</td>
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<tr>
<td>3583/MUM/2011</td>
<td>2011</td>
<td>SYSTEM FOR ENCAPSULATION AND RELEASE OF FRAGRANT</td>
<td>PATENT GRANTED: 286560</td>
<td>DR. KALPANA SHRIKANT JOSHI</td>
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<td>Application Number</td>
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<td>Co-Inventor(s)</td>
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<td>4423/CHE/2012</td>
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<td>SOLAR POWER OPERATED CAR WITH TRACKING UNIT</td>
<td>Application Awaiting Examination</td>
<td>DR. RAVI KUMAR PULI</td>
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<td>4424/CHE/2012</td>
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<td>A CAR DRIVEN BY FUEL CELL</td>
<td>Application Examined (Fer Issued)</td>
<td>DR. RAVI KUMAR PULI</td>
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<td>4425/CHE/2012</td>
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<td>DESIGN AND DEVELOPMENT OF E-CAR</td>
<td>Application Examined (Fer Issued)</td>
<td>DR. RAVI KUMAR PULI</td>
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<td>4426/CHE/2012</td>
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<td>FLYING CAR (A PROTOTYPE)</td>
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<td>DR. RAVI KUMAR PULI</td>
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<td>4924/CHE/2012</td>
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<td>HOVOMARINE</td>
<td>Application Awaiting Examination</td>
<td>NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL</td>
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<td>233/MUM/2013</td>
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<td>SYSTEM FOR PREPARATION OF NANO ORGANIC PIGMENT DISPERSION USING CAVITATION REACTORS</td>
<td>Application in Amended stage</td>
<td>1. BHARAT APPARAO BHANVASE 2. SONAWANE SHIRISH HARI</td>
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<td>3023/DEL/2013</td>
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<td>A MILLING CUTTING TOOL</td>
<td>Application Awaiting Examination</td>
<td>Applicant: DRDO Co Inventor: Anne Venugopal</td>
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<td>863/KOL/2013</td>
<td>2013</td>
<td>Oxabicyclo derivatives as novel antileishmanial compounds.</td>
<td>Application Awaiting Examination</td>
<td>DR. VIKASH KUMAR DUBEY</td>
<td>BIOTECHNOLOGY</td>
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<td>3338/CHE/2014</td>
<td>2014</td>
<td>COUNTER CURRENT CONTINUOUS MULTISTAGE WALL HEATED FLUIDIZED BED DRYER</td>
<td>Application Awaiting Examination</td>
<td>Y. PYDI SETTY</td>
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<td>490/CHE/2014</td>
<td>2014</td>
<td>PROCESS FOR PRODUCTION OF NANO SIZE IRON OXIDE PIGMENT</td>
<td>Application Awaiting Examination</td>
<td>NATIONAL INSTITUTE OF TECHNOLOGY</td>
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<td>635/CHE/2015</td>
<td>2015</td>
<td>CONTINUOUS SOLUTION PHASE PRODUCTION OF β DIPEPTIDE</td>
<td>Application Examined (Fer Issued)</td>
<td>SHIRISH SONAWANE</td>
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<td>Application No.</td>
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<td>Description</td>
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<td>5619/CHE/2015</td>
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<td>PARTIAL REPLACEMENT OF PLATINUM CATALYST USING NON-NOBLE FUNCTIONAL NANOPARTICLES PREPARED BY SONOCHEMICAL APPROACH</td>
<td>Application Examined (Fer Issued)</td>
<td>THE DIRECTOR, NITW</td>
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<td>5619/CHE/2015</td>
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<td>DISPERSION OF NANOPARTICLES INTO BINDER &amp; PLASTICIZER MATRIX AND ITS PROCESS THEREOF</td>
<td>Application Awaiting Examination</td>
<td>DIRECTOR</td>
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<td>4124/CHE/2015</td>
<td>2015</td>
<td>A NOVEL BI-AXIAL SOLAR TRACKER USING ONE MOTOR</td>
<td>Application Awaiting Examination</td>
<td>DEVANURI JAYA KRISHNA</td>
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<td>5643/CHE/2015</td>
<td>2015</td>
<td>DUAL SECURITY PAD LOCK</td>
<td>Application Awaiting Examination</td>
<td>DR.SRIKANTHKORLA</td>
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<td>201641015326</td>
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<td>IMPROVED SELF HEALING CORROSION INHIBITION COATING BASED ON NANOCAPSULE USING SONOCHEMICAL APPROACH</td>
<td>Application Awaiting Examination</td>
<td>DIRECTOR, NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL</td>
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<td>201641038698</td>
<td>2016</td>
<td>FULL-BRIDGE SOFT SWITCHED DRIVER FOR LED BASED STREET LIGHTING APPLICATION</td>
<td>Application Awaiting Examination</td>
<td>1. Dr. NETI VISHWANATHAN 2. Dr. S. PORPANDISELVI 3. CH. KASI RAMAKRISHNAREDDY</td>
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<td>201641030518</td>
<td>2016</td>
<td>CYCLIC ON-OFF CONTROL FOR A THREE-OUTPUT INVERTER FOR INDUCTION COOKING APPLICATION WITH INDEPENDENT CONTROL</td>
<td>Application Awaiting Examination</td>
<td>1. S. PORPANDISELVI 2. TANMOY MAITY 3. DEVARA VIJAYA BHASKAR 4. NETI VISHWANATHAN</td>
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<td>201641009916</td>
<td>2016</td>
<td>PEN STAND PUZZLE</td>
<td>Application Awaiting Examination</td>
<td>1. SRIKANTH KORLA 2. SURYAWANSHI NIKHIL RAMKRISHNA</td>
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<td>Application Number</td>
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<td>201621012767</td>
<td>2016</td>
<td>SYSTEM AND METHOD FOR RECOGNIZING MUSICAL INSTRUMENT SOUND USING FRFT BASED MFCC FEATURES</td>
<td>Application Awaiting Examination</td>
<td>DR.C.B. RAMA RAO</td>
<td>PHYSICS</td>
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<td>201641013616</td>
<td>2016</td>
<td>BIODEGRADABLE AND BIODECOMPATIBLE IMPLANTS AND METHODS THEREOF</td>
<td>Application Published</td>
<td>Applicant: SANTOSH KUMAR MALLYALA Co-Inventor: Dr. Y. RAVI KUMAR</td>
<td>POLYMER TECHNOLOGY</td>
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<td>201721005789</td>
<td>2017</td>
<td>DEVELOPMENT OF IMPROVED PASTA (SPAGHETTI) FROM CHEMICALLY MODIFIED GLUTEN</td>
<td>Application Awaiting Examination</td>
<td>Shriram S. Sonawane</td>
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<td>201741032892</td>
<td>2017</td>
<td>A DUAL DC-POWER SUPPLY BASED FOUR-LEVEL OPEN-END WINDING INDUCTION MOTOR DRIVE WITH A FLYING RECTIFIER-INVERTER COMBINATION</td>
<td>Application Awaiting Examination</td>
<td>Director, National Institute of Technology Warangal</td>
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<tr>
<td>201741033677</td>
<td>2017</td>
<td>CONSTRUCTIVE DESIGN AND FABRICATION OF POLYMER ELECTROLYTE MEMBRANE (PEM) FUEL CELL STACK AND ITS</td>
<td>Application Awaiting Examination</td>
<td>DIRECTOR, NITW</td>
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<td>201741036100</td>
<td>2017</td>
<td>PICKLING AND POLISHING CHEMICALS FOR BLANK COINS AND ITS PROCESS THEREOF</td>
<td>Application Awaiting Examination</td>
<td>DIRECTOR, NITW</td>
<td>METALLURGY</td>
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<tr>
<td>201841004256</td>
<td>2018</td>
<td>MINIMIZATION OF LEAKAGE CURRENT IN TRANSFORMER-LESS STANDALONE SOLAR PV POWERED INDUCTION</td>
<td>Application Awaiting Examination</td>
<td>The Director, National Institute of Technology Warangal</td>
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